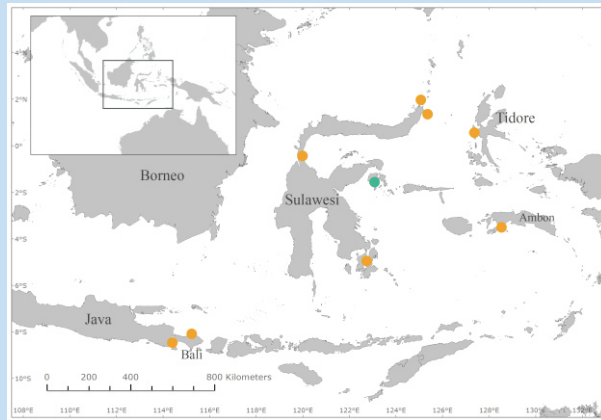


# Banggai cardinalfish *Pterapogon kauderni*

## Meets CITES Listing Criteria



Left: Occurrence of Banggai cardinalfish across Indonesia (note green circle for endemic location, Banggai archipelago and orange circles for introductions).

Below: (Left) Survey sites across Banggai archipelago. (Right) Red stars indicate local extinction, whereas red circles denote sites where subpopulations have declined ≥90 percent from baseline. See explanation in full FAO Panel report.

The Banggai cardinalfish, *Pterapogon kauderni* is endemic to the Banggai archipelago (<30km<sup>2</sup> of habitat), and is also found in some other locations where more recent species introductions have been made.

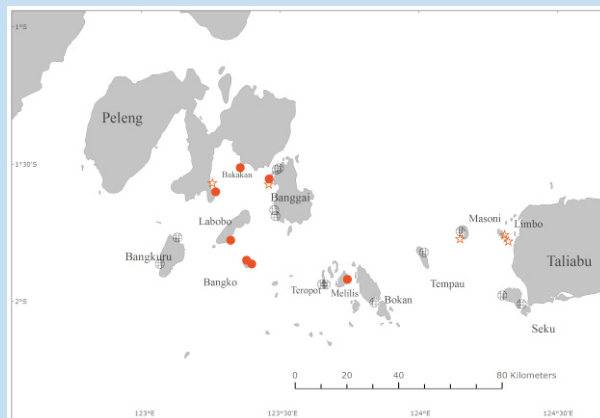
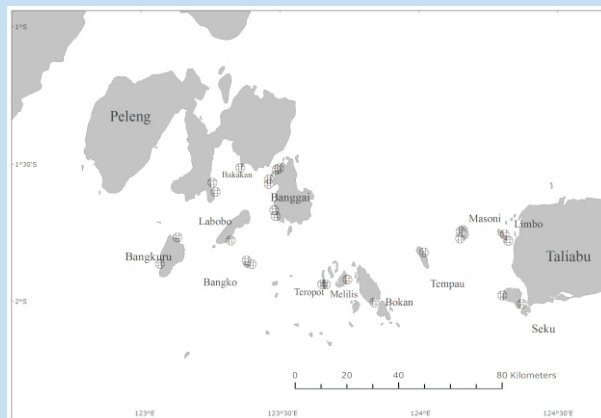
The life history of this species excludes planktonic dispersal of larvae and includes site attached adults, limiting natural dispersal. The high productivity of Banggai cardinalfish, can result in a doubling of its population every year, and relocation and increases in abundance measured at new sites across

Indonesia illustrates that the species has a good capacity to respond to natural and human pressures.

However, the Panel determined that the historical extent of decline and recent rate of decline of Banggai cardinalfish meets the CITES Appendix II listing criteria for a large proportion of the subpopulations surveyed. The Panel noted local extinction of one subpopulation in 2007, and how, through serial depletion, four new sites had lost the species by 2015, with a further seven sites recording sub-population declines ≥90 percent.

The Panel took into account that the Banggai cardinalfish is particularly vulnerable to overharvesting, considering the ecological characteristics that facilitate capture; preference for shallow habitats and formation of highly site-attached groups.

The Panel also noted data showing a decline in the abundance of critical micro-habitat (e.g. long-spine sea urchins and anemones) from both direct exploitation and degradation of coastal habitat, which further elevates the level of threat.





## Management

Since 2007, Indonesia has been working on improving local management of the Banggai cardinalfish fishery, and raising awareness amongst local communities. While waiting the acceptance of a draft NPOA for Banggai cardinalfish (expected in 2016) authorities have distributed booklets containing guidance for better management of the species and its habitats, and has

also commenced training local community members in issues relating to the Banggai cardinalfish and its environment.

There have been issues with recent changes in regional administration boundaries that has delayed some initiatives, while compliance with local and national governance is made more difficult by the expansion of shipping routes and

communication that diversifies the market chain and trade routes.

The Indonesian authorities have again asked for more time to deliver a local solution to the declining conditions for the species, and has plans for more awareness raising, short term moratoriums on fishing, aquaculture and restocking of the species.

## Trade

International trade is considered the main driver behind fishing, although changes in micro-habitat of the species through local exploitation and degradation of coastal habitats is noted.

The Banggai cardinalfish fishery is considered an

'alternative' income for island communities. Trade from the archipelago continues, but has declined in recent years, possibly due to a marked increase in availability of captive bred 'disease free' specimens from Indonesia and Thailand.

In addition, some trade in wild sourced Banggai cardinalfish now originates from locations closer to the trade routes that have been stocked with fish sourced from sites across the Banggai archipelago.

## LIKELY EFFECTIVENESS FOR CONSERVATION

If Banggai cardinalfish were listed in CITES Appendix II, CITES provisions for on-going trade of a species would require the formulation of a non-detrimental finding (NDF) to indicate that harvests for trade were sustainable and consistent with relevant measures under international law. If properly implemented, a CITES Appendix II listing would be expected to result in better monitoring and reporting of catches entering international trade and this improvement should enable new or enhanced assessments of stock status.

However, one needs to consider the local administrative and social

conditions. Local capacity and resources for fisheries management (monitoring, governance and on-going compliance) are already challenged in regional areas, as evidenced by difficulties seen in delivering against CITES provisions for other listed species.

If these CITES provisions proved difficult to comply with, the following outcomes could occur: i) trade could be stopped with negative repercussions for fishers, ii) trade could continue without proper CITES documentation (i.e. illegal trade) and/or iii) trade continues with inadequate CITES provisions (assessments and NDFs).

Indonesia recognises the challenge of ensuring compliance with internationally led trade regulations that could divert capacity and resources away from the delivery of better local awareness and governance solutions.

The Directorate of Conservation (Ministry of Marine Affairs and Fisheries) recently stated that it would prefer to use national and local initiatives to manage the resource, such as short-term moratoriums on wild collection followed by the development of an orderly chain of custody to monitor and regulate trade when stocks recover.